1. Basis of the product report:
   • 2018, 2015, and 2012 International Building Code (IBC): Section 2303.1.3 Structural glued laminated timber
   • 2018 and 2015 International Residential Code (IRC): Sections R502.1.3, R602.1.3, and R802.1.2 Structural glued laminated timber
   • 2012 IRC: Sections R502.1.5, R602.1.2, and R802.1.4 Structural glued laminated timber
   • ASTM D3737-12 and D3737-08 recognized by the 2018 and 2015 IBC and IRC, and 2012 IBC and IRC, respectively
   • APA Report T2019P-67 and other qualification data

2. Product description:
   Power Beam® and Power Rated Glulam (PRG®) are southern pine structural glued laminated timber manufactured in accordance with ANSI A190.1 using 28F-E1, 28F-E2, 30F-E1, 30F-E1M6, 30F-E2, and 30F-E2M6 for the Power Beam layup combinations, and 24F-V5M1/SP for the PRG layup combination recognized in the 2018 National Design Specification (NDS) Supplement, APA Glulam Design Specification, Form Y117 (www.apawood.org/resource-library), or ANSI 117. Power Beam and PRG are used as beams, headers, rafters, or purlins. 24F and 28F Power Beam products are manufactured in nominal widths of 3, 4, 6, and 8 inches, depths ranging from 5-1/2 to 28-7/8 inches, and lengths up to 60 feet. 30F-E1 and 30F-E2 Power Beam products are manufactured in nominal widths up to 6 inches, depths ranging from 5-1/2 to 28-7/8 inches, and lengths up to 60 feet. 30F-E1M6 and 30F-E2M6 Power Beam products are manufactured in net widths up to 7-1/4 inches, depths up to 18 inches, and lengths up to 60 feet. PRG products are manufactured in nominal widths of 3-1/2 and 5-1/2 inches, depths ranging from 9-1/4 to 18 inches, and lengths up to 60 feet.

3. Design properties:
   Table 1 lists the allowable design properties for Power Beam and PRG. The allowable spans for Power Beam and PRG shall be in accordance with the recommendations provided by the manufacturer (www.anthonyforest.com/assets/pdf/power-beam-brochure.pdf and www.anthonyforest.com/assets/pdf/prg-brochure.pdf) and APA Glued Laminated Beam Design Tables, Form S475 (see link above), as applicable.

4. Product installation:
   Power Beam and PRG shall be installed in accordance with the recommendations provided by the manufacturer and APA Glulam Connection Details, Form T300 (see link above). Permissible field notching and drilling shall be in accordance with the recommendations provided by the manufacturer, and APA Field Notching and Drilling of Glued Laminated Timber Beams, Form S560, and Effect of Large Diameter Horizontal Holes on the Bending and Shear Properties of Structural Glued Laminated Timber, Form V700 (see link above).
5. Fire-rated assemblies:
   Fire-rated assemblies shall be constructed in accordance with the recommendations
   provided by the manufacturer and APA Fire-Rated Systems, Form W305 (see link above). For one- or two-hour rated glulam beams, Power Beam and PRG shall be constructed in accordance with ANSI A190.1 and designed in accordance with the recommendations provided by the manufacturer and APA Technical Note: Calculating Fire Resistance of Glulam Beams and Columns, Form Y245 (see link above) or Chapter 16 of the 2018 NDS.

6. Limitations:
   a) Power Beam and PRG shall be designed in accordance with the code using the design properties specified in this report.
   b) Power Beam and PRG shall have a minimum depth of 5-1/2 inches and 9-1/4 inches, respectively.
   c) Power Beam and PRG are produced at Anthony Forest Products Company, LLC, El Dorado, AR and Washington, GA facilities under a quality assurance program audited by APA.
   d) This report is subject to re-examination in one year.

7. Identification:
   Power Beam and PRG described in this report are identified by a label bearing the manufacturer's name (Anthony Forest Products Company, LLC) and/or trademark, the APA assigned plant number (1079 for El Dorado, AR or 1080 for Washington, GA), the product standard (ANSI A190.1), the APA logo, the layup combination symbol, the report number PR-L263, and a means of identifying the date of manufacture.
### Table 1. Allowable Design Values for PRG and Power Beam Manufactured by Anthony Forest Products Company, LLC for Normal Duration of Load (1.2)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Species (Outer/ Core® (Bal or Unbal)®)</th>
<th>Extreme Fiber in Bending (1)</th>
<th>Compression Perpendicular to Grain</th>
<th>Shear Perpendicular to Grain (2)</th>
<th>Modulus of Elasticity (7)</th>
<th>Extreme Fiber in Bending (8)</th>
<th>Comp. Perpendicular to Grain</th>
<th>Shear Parallel to Grain (9)</th>
<th>Modulus of Elasticity (7)</th>
<th>Axially Loaded</th>
<th>Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom of Beam Stressed in Tension (Positive Bending)</td>
<td>Top of Beam Stressed in Tension (Negative Bending)</td>
<td>Ten. Face</td>
<td>Comp. Face</td>
<td>True</td>
<td>Apparent</td>
<td>Beam Stability</td>
<td>True</td>
<td>Apparent</td>
<td>Beam Stability</td>
<td>Tension Parallel to Grain</td>
</tr>
<tr>
<td></td>
<td>F&lt;sub&gt;x&lt;/sub&gt; (psi)</td>
<td>F&lt;sub&gt;y&lt;/sub&gt; (psi)</td>
<td>F&lt;sub&gt;lx&lt;/sub&gt; (psi)</td>
<td>F&lt;sub&gt;ly&lt;/sub&gt; (psi)</td>
<td>E&lt;sub&gt;x&lt;/sub&gt; (10&lt;sup&gt;6&lt;/sup&gt;) psi</td>
<td>E&lt;sub&gt;ly&lt;/sub&gt; (10&lt;sup&gt;6&lt;/sup&gt;) psi</td>
<td>E&lt;sub&gt;app&lt;/sub&gt;</td>
<td>E&lt;sub&gt;comp&lt;/sub&gt;</td>
<td>E&lt;sub&gt;y&lt;/sub&gt; (10&lt;sup&gt;6&lt;/sup&gt;) psi</td>
<td>E&lt;sub&gt;ly&lt;/sub&gt; (10&lt;sup&gt;6&lt;/sup&gt;) psi</td>
<td>F&lt;sub&gt;x&lt;/sub&gt; (ksi)</td>
</tr>
<tr>
<td>PRG® 24F- VSM1</td>
<td>SP/SP (B)</td>
<td>2.400</td>
<td>2.400</td>
<td>740</td>
<td>740</td>
<td>300</td>
<td>1.9</td>
<td>1.8</td>
<td>0.95</td>
<td>1.700</td>
<td>650</td>
</tr>
<tr>
<td>Power Beam® 28F- E1</td>
<td>SP/SP (U)</td>
<td>2.800</td>
<td>2.300</td>
<td>805</td>
<td>805</td>
<td>300</td>
<td>2.2&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2.1&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.11&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.600</td>
<td>650</td>
</tr>
<tr>
<td>Power Beam® 28F- E2</td>
<td>SP/SP (B)</td>
<td>2.800</td>
<td>2.800</td>
<td>805</td>
<td>805</td>
<td>300</td>
<td>2.2&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2.1&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.11&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.600</td>
<td>650</td>
</tr>
<tr>
<td>Power Beam® 30F- E1&lt;sup&gt;(11)&lt;/sup&gt;</td>
<td>SP/SP (U)</td>
<td>3.000</td>
<td>2.400</td>
<td>805</td>
<td>805</td>
<td>300</td>
<td>2.2&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2.1&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.11&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.750</td>
<td>650</td>
</tr>
<tr>
<td>Power Beam® 30F- E1&lt;sup&gt;(11)&lt;/sup&gt;</td>
<td>SP/SP (B)</td>
<td>3.000</td>
<td>3.000</td>
<td>805</td>
<td>805</td>
<td>300</td>
<td>2.2&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2.1&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.11&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.750</td>
<td>650</td>
</tr>
<tr>
<td>Power Beam® 30F- E2&lt;sup&gt;(11)&lt;/sup&gt;</td>
<td>SP/SP (B)</td>
<td>3.000</td>
<td>3.000</td>
<td>805</td>
<td>805</td>
<td>300</td>
<td>2.2&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2.1&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.11&lt;sup&gt;10&lt;/sup&gt;</td>
<td>1.750</td>
<td>650</td>
</tr>
</tbody>
</table>

(1) The combinations in this table are intended primarily for members stressed in bending due to loads applied perpendicular to the wide faces of the laminations. Allowable design values are tabulated, however, for loading both perpendicular and parallel to the wide faces of the laminations.

(2) The tabulated allowable design values are for normal duration of loading. For other durations of loading, see the applicable building code. The tabulated allowable design values are for dry conditions of use. For wet conditions of use, multiply the tabulated values by the wet-use factors shown at the bottom of the table.

(3) SP = Southern pine.

(4) The unbalanced (U) layup is intended primarily for simple-span applications and the balanced (B) layup is intended primarily for continuous or cantilevered applications.

(5) For non-prismatic members, members subject to impact or cyclic loading, or shear design of bending members at connections (NDS 3.4.3.3), the F<sub>x</sub> and F<sub>y</sub> values shall be multiplied by a factor of 0.72. The tabulated F<sub>y</sub> values are for non-prismatic members and members subject to impact or cyclic loading. The tabulated F<sub>x</sub> values are for shear design of bending members at connections (NDS 3.4.3.3).

(6) The values of F<sub>y</sub> are based on members 5-1/8 inches in width by 12 inches in depth by 21 feet in length. For members with a larger volume, F<sub>y</sub> shall be multiplied by a volume factor, C<sub>y</sub> = (5.125b<sup>1/2</sup>)/(2d<sup>1/2</sup>), where b is the beam width (in.), d is the beam depth (in.), and L is the beam length between the points of zero moment (ft).

(7) The values of F<sub>x</sub> and F<sub>y</sub> are based on members 12 inches in depth. For depths less than 12 inches, F<sub>x</sub> and F<sub>y</sub> shall be permitted to be increased by multiplying by the flat use factor, (12/d)<sup>1/2</sup>, where d is the beam depth in inches. When d is less than 3 inches, use the size adjustment factor for 3 inches.

(8) This layup combination is limited to nominal 6 inches or less in width.

(9) This layup combination is limited to net 7-1/4 inches or less in width and 18 inches or less in depth.

(10) The tabulated E values include true E (also known as “shear-free E”), apparent E, and F for beam stability calculation (NDS 3.3.3.8). For calculating beam deflections, the tabulated E<sub>xapp</sub> values shall be used unless the shear deflection is determined in addition to bending deflection based on the tabulated E<sub>xtrue</sub>. The axial modulus of elasticity, E<sub>xtrue</sub> and E<sub>ytrue</sub>, shall be equal to the tabulated E<sub>xapp</sub> and E<sub>yapp</sub> values.

(11) For members with a larger volume, E<sub>xtrue</sub> = 2.1 x 10<sup>6</sup> psi, E<sub>ytrue</sub> = 2.0 x 10<sup>6</sup> psi, and E<sub>ytrue</sub> = 1.06 x 10<sup>6</sup> psi.

(12) This layup combination is limited to nominal 6 inches or less in width.

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